

REMARKS

Status Of The Claims

Claims 14-16, 18 and 21-25 are pending and stand rejected.

Rejections Under 35 U.S.C. § 103(a)

I. Claims 21-24

Claims 21-24 stand rejected as obvious over U.S. Patent No. 5,635,037 to Chu (hereafter "Chu") in view of JP-08 315356 to Honda (hereafter "Honda").

In the Amendment filed on January 23, 2006, Applicants amended independent claim 21 to specify that particles on the *entire* surface of the protective layer are removed to make a smooth surface and noted that Chu and Honda use masks and thus, do not remove particles on the entire surface.

In response to the Applicants' arguments, the Examiner states that Chu discloses etching the entire surface. The Examiner points to Chu, column 5, lines 38-46, which sets forth that "the etching step was not considered to be done until the deposited indium layer 19 in either liquid or solid state has been completely removed from substrate surface." Chu also discloses that overetching is desirable (column 7, lines 13-16). Thus, it is the Examiner's position that Chu discloses that particles on the entire surface of the protective layer are removed because the indium mask is etched away and the surface is overetched. However, the Examiner admits that Chu does not disclose using the process gas mixture recited in claim 21, for which the Examiner relies on Honda. The Examiner contends that it would have been obvious at the time of the invention to use the process gas of Honda to etch the surface of Chu. Applicants respectfully traverse the rejection.

Chu teaches:

it is preferable that both indium and carbon having comparable etching rates. To achieve that, reactive ion etching is preferred. By proper choice of the types of gases and the proportions thereof, for example using an argon and oxygen mixture, an etching selectivity of close to one can be achieved between indium and carbon. (Chu, column 7, lines 2-8)

Chu discloses the use of an indium mask that is etched away during the etching process. Thus, as Chu states, it is critical that the etch rate of the mask be comparable to the etch rate of the protective layer. If the etch rate of the mask is slower than the etch rate of the protective layer, there is a risk that the etch will remove entire sections of the protective layer exposing the laminate.

In contrast, Honda discloses the use of a Teflon mask which is washed away after the etching step (Honda, paragraph 16). Honda does not disclose that the process gas mixture etches the Teflon mask. Further, Honda does not disclose how the mixture would affect an indium mask as used by Chu. Accordingly, one of ordinary skill in the art would have no reasonable expectation of success using the gas mixture disclosed by Honda to etch Chu's protective layer and mask.

Further, there is no evidence that using Honda's gas mixture would yield an etch rate for both the mask and protective layer that would result in the mask being etched away. The gas mixture disclosed in Honda could etch the protective layer quickly and the areas under the mask would not be etched. Thus, there is no basis for the proposition that the combination of Chu and Honda would include the feature of the entire surface of the protective layer being etched. Further there is no motivation to combine Honda and Chu, because there is no reasonable expectation of success for this combination. For the foregoing reasons, claims 21-24 are patentable over the combination of Chu and Honda. Applicants respectfully request reconsideration and withdrawal of the rejection.

II. Claims 14-16, 18 and 21-25

Claims 14-16, 18 and 21-25 stand rejected as obvious over Chu in view of Honda and further in view of U.S. Patent No. 4,816,334 to Yokoyama et al. (hereafter "Yokoyama"). The Examiner states that Chu and Honda may be combined as stated above. The Examiner also states that Yokoyama discloses a method of forming a thin-film magnetic recording medium comprising forming a laminate, forming a protective layer on the laminate and plasma etching the protective layer without intermediate masking steps. The Examiner contends that in light of Yokoyama it would have been obvious at the time of the invention to remove the masking steps from Chu and Honda. Applicants respectfully traverse the rejection.

As previously stated one of ordinary skill in the art would not be motivated to combine Chu and Honda. Further, Yokoyama does not disclose the process indicated by the Examiner, i.e. a method of forming a thin-film magnetic recording medium whereby the protective layer is plasma etched after forming the protective layer without intermediate masking steps.

All of the independent claims of the present invention require that the plasma etching remove particles on the surface of the protective layer. In contrast, Yokoyama discloses *plasma treating* the protective film to increase bonding strength between the protective film and the topcoat. There is no indication that the plasma treatment disclosed by Yokoyama is an etching process that removes particles from the surface of the protective layer. None of the gases disclosed by Yokoyama for the plasma treatment are highly reactive. Thus, Yokoyama does not disclose forming a protective layer and etching it without intermediate masking steps.

Further, there is no motivation to combine Chu and Honda and then remove the masking steps disclosed in both of those references, as suggested by the Examiner. The disclosures of both Chu and Honda are directed to forming magnetic recording medium and are concentrated on the steps surrounding etching a masked surface. One of ordinary skill in the art who would have been motivated to combine two references that are directed to forming a magnetic recording medium including a step of etching a masked surface would not have been motivated to remove the masking steps. It is only with improper hindsight that the Examiner can contend that it would have been

obvious to remove these steps. For the foregoing reasons, claims 14-16, 18 and 21-25 are patentable over Chu and Honda in view of Yokoyama. Accordingly, Applicants request that the obviousness rejections be reconsidered and withdrawn.

Applicants believe that the pending application is in condition for allowance. If an interview would be helpful, the Examiner is requested to contact the undersigned attorney at the number listed below.

Respectfully submitted,

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